



NEXGEN 2.0

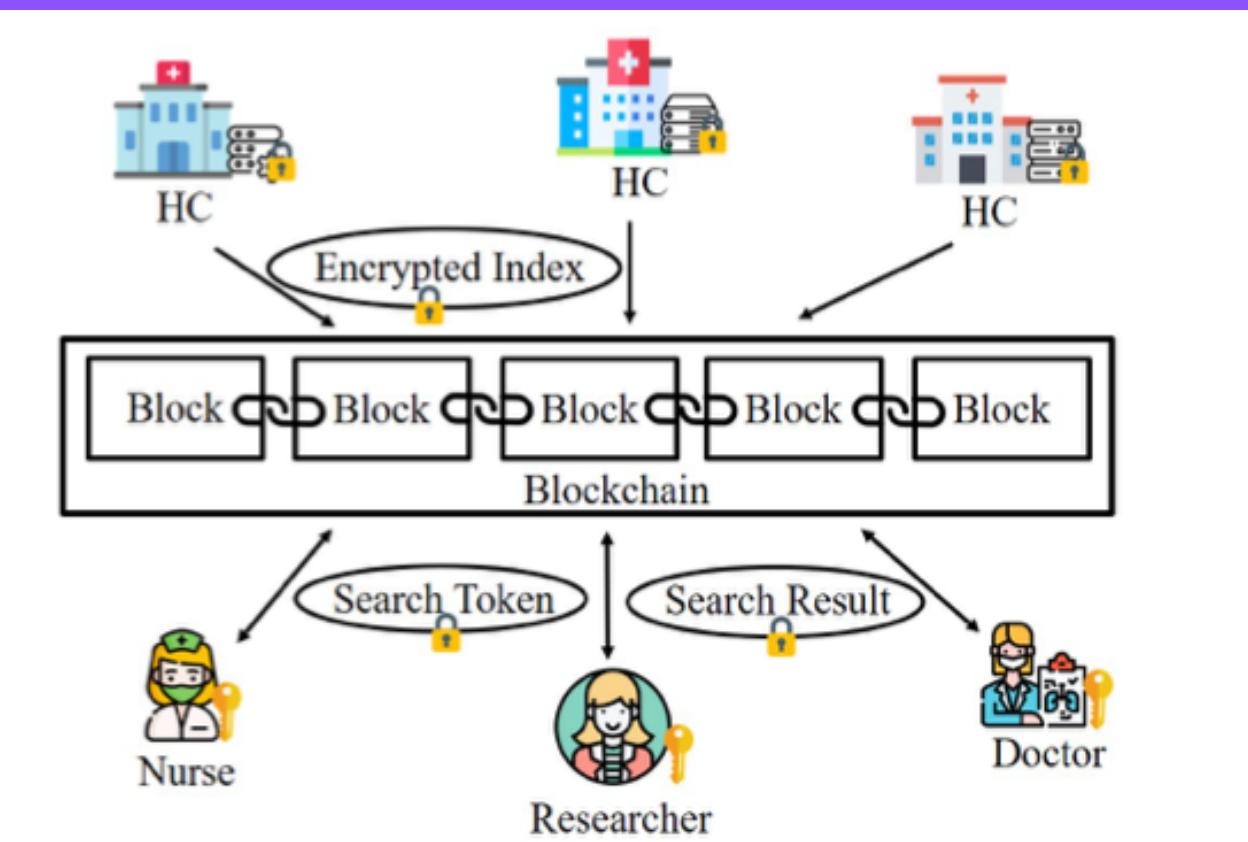
PROJECT NAME:-AROGYA GOSH

Team name:- mkdir Adernaline

- COLLEGE NAME - DAYANANDASAGAR COLLEGE OF ENGINEERING
- PARTICIPANT 1- SATHWIK SHETTY, AIML, 3
(BACKEND IS AS EASY AS CANDY CRUSH)
- PARTICIPANT 2- KHUSHBU, AIML, 3
(AM I ALLOWED TO SLEEP DURING HACKATHON)
- PARTICIPANT 3- RITVIK, AIML, 3
(WHAT IS CODING)
- PARTICIPANT 4- SHREYAS , AIML, 3
(MY BEST FRIEND IS AI)

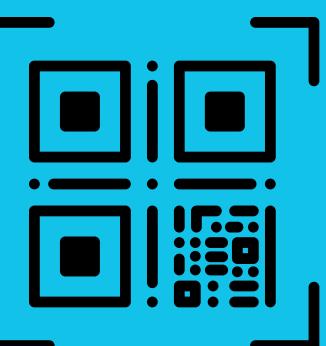
Problem Description

Development of a decentralized health record system that leverages blockchain's immutable ledger to revolutionize emergency medical response. The system employs hospital-level smart contracts and computer vision to detect accidents in real-time, triggering an automated response system that instantly provides critical patient data to emergency responders via secure QR identification



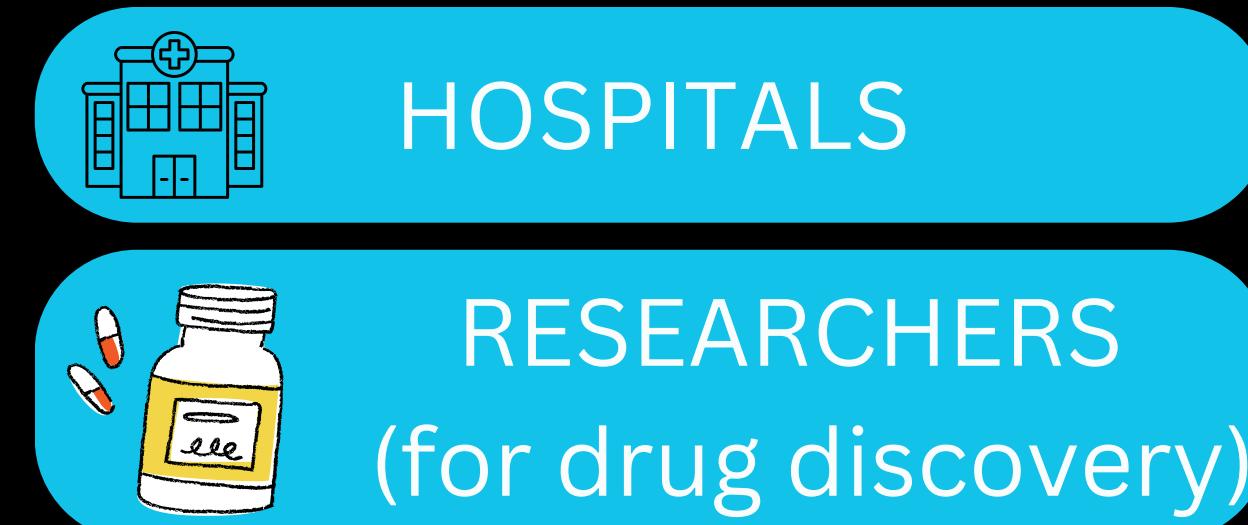
Solution

A blockchain-based EHR system that provides a secure and decentralized platform for storing patient medical records, allowing hospitals to access and update records while maintaining complete patient privacy through smart contracts and encryption.



An emergency response feature that utilizes QR codes linked to patients' medical histories, coupled with an ML model that can validate accident scenes through image processing and automatically alert the nearest hospital with the patient's location and critical medical information.

TARGET AUDIENCE



TRACK



Patients control their records, setting them as public or private, with time-limited access for providers.

Verified hospital onboarding through manual license verification ensures institutional authenticity and sharing of data

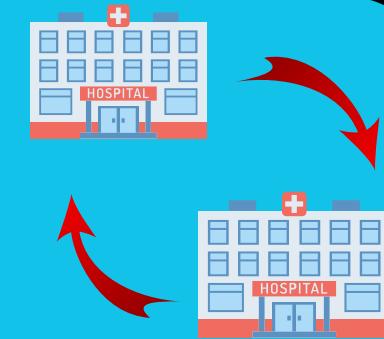


Data categorization system for different sensitivity levels (e.g., basic info, sensitive diagnoses, mental health records)

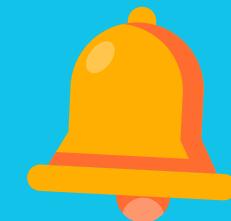
Health record version control to track changes and updates



Cross-hospital data sharing capabilities enable coordinated care across different facilities



Notification system for access requests and grants



Integration with pharmacy systems for prescription management

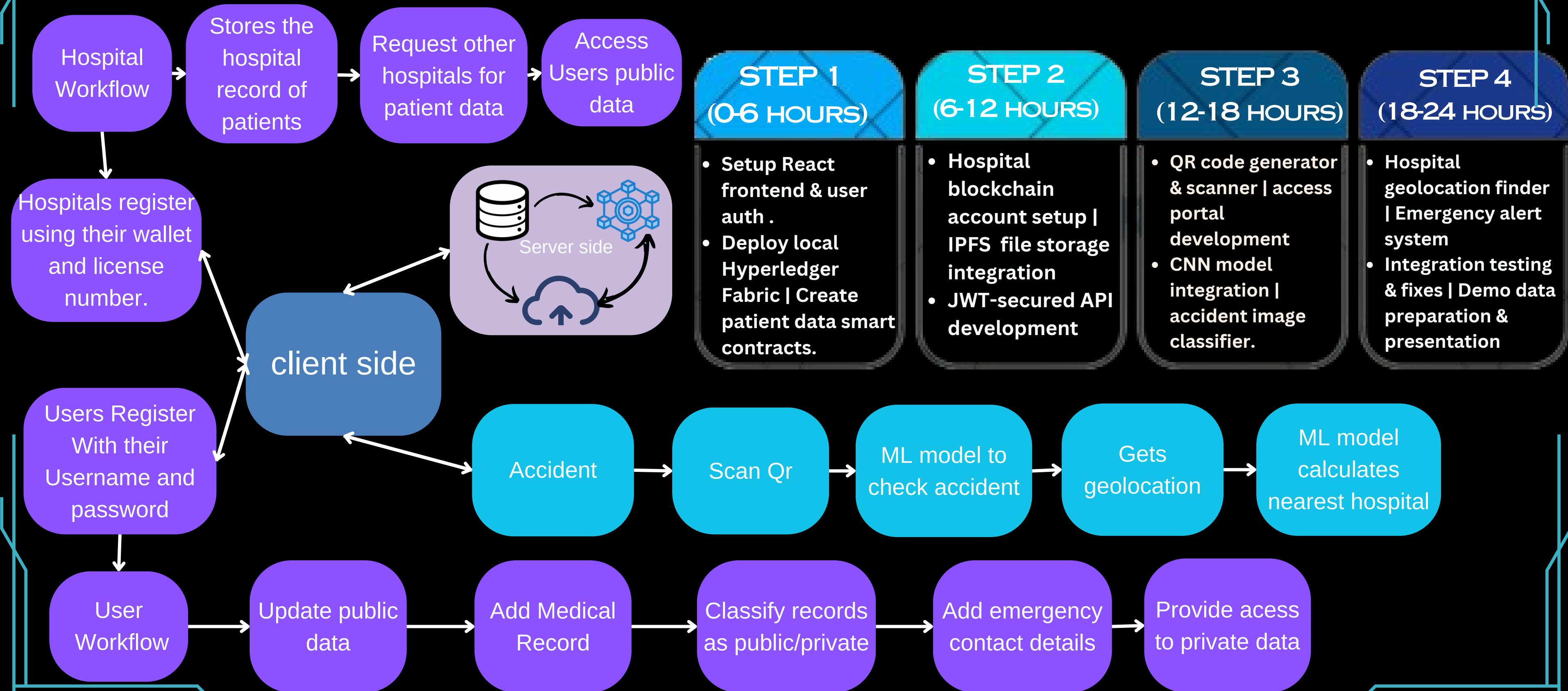


TECH STACK



| | | |
|---|------------------|---|
|  Kong | Kong API Gateway | Load balancing and API management with rate limiting |
|  Hyperledger Fabric | | Enterprise-grade permissioned blockchain with chaincode support |
|  HashiCorp Vault | | Secret management and encryption key handling |
|  ELK Stack | | Log aggregation and real-time system monitoring |
|  Apache Kafka | | High-throughput event streaming for real-time data pipelines |

WORKFLOW



ORIGINALITY



Existing solutions

1. Existing projects like MedRec and MedicalChain use permissioned blockchains for health data management.
2. Your approach uniquely combines ML-powered accident detection with emergency QR access.
3. Unlike Doc.ai and BurstIQ, your solution integrates computer vision-based detection with automated hospital routing.

Here is where we stand out

1. The hospital-level blockchain account structure avoids patient wallet challenges in healthcare.
2. Unlike Patientory and IRYO, your approach centralizes accounts at the hospital level.
3. Your unique emergency access protocol adds practical utility to the off-chain IPFS and blockchain hash combination, similar to CareChain.

Novelty

1. The original aspect is the integration of ML-based accident detection with QR identification for emergency response.
2. Unlike MedXchange, HealthNexus, and separate systems like RapidSOS, your solution combines these technologies.
3. It uniquely merges blockchain-secured records, automated accident detection, and QR access for streamlined emergency response.

SCALABILITY

Microservices architecture for independent scaling of components

Asynchronous processing using Celery for resource-intensive tasks

Efficient smart contract design to minimize gas costs

Horizontal scaling of blockchain nodes to manage increased transaction loads

Caching layers using Redis for frequently accessed patient data

Off-chain storage of large medical files (images, reports) with blockchain hashes

Scalability



IPFS cluster deployment for distributed storage of medical records

Elastic container orchestration for dynamic resource allocation

INVESTOR APPEAL

Potential investors include major healthcare venture capital firms like Oak HC/FT and Andreessen Horowitz, which have shown strong interest in blockchain healthcare solutions. Additionally, technology-focused healthcare groups like Ascension Ventures and insurance companies would be ideal partners.

| Cost Category | Annual Savings | Impact Area |
|--------------------|----------------|---|
| Administrative | ₹45M - ₹60M | Staff efficiency, paperwork reduction, automated processing |
| Medical Tests | ₹35M - ₹50M | Eliminated duplicate tests, faster record access, |
| Emergency Response | ₹20M - ₹40M | Faster response times, reduced liability costs |